the predicting, computing and assigning are repeated for the macroblocks in the video object planes.

Please add the following new claims:

18
~~20.~~ (New) In a video coder for coding video images in a block format, a method for variable length coding block motion information of the video images, wherein a joint parameter represents x and y motion vector components for a block, the method comprising:

assigning a single variable length code selected from a set of available variable length codes to the joint x and y motion vector components, wherein training determines which joint x and y motion vector components to represent in the set of available variable length codes.

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19 18
~~21~~ (New) The method of claim ~~20~~ wherein the block is a 16x16 macroblock of pixels, and wherein each of the x and y motion vector components comprises a differential value.

20
~~22~~ (New) A video decoder including computer-executable instructions for causing a computer programmed thereby to perform a method for variable length decoding macroblock motion information of a predicted video frame, wherein a single variable length code represents joint differential x and y components of a motion vector for each of plural macroblocks, the method comprising:

for each of the plural macroblocks, searching for a single entry in a Huffman table corresponding to the variable length code for the macroblock, wherein the single entry includes the joint differential x and y components of the motion vector for the macroblock, wherein the joint differential x and y components are combinable with predictor x and y components to reconstruct the motion vector for the macroblock, and wherein the Huffman table includes variable length codes for the most probable joint differential x and y components as computed by statistical analysis of example video sequences.